

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002064**Date Inspected:** 22-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

New Tower Shop Bay 1:

The QA Inspector randomly observed ZPMC welders Chen Xianhong ID Number 047338 and Zhang Weilong ID Number 040431, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 1G Position (Flat Groove) with ZPMC Weld Procedure Specification (WPS) WPS-B-P-2311-B-P3(PJP) and WPS-B-P-2211-B-U3b(CJP), to tack weld Weld Joint (WJ) Numbers SSD1-SA173J/K-1(PJP), SSDI-SA173J/K-3(PJP), SSD1-SA173J/K-7A(CJP), SSD1-SA173J/K-8A(CJP) and SSD1-SA173J/K-14A(CJP) on Tower Skin Plate E Sub-Assembly SA173(E). The QA Inspector randomly observed ZPMC CWI Xu Le Feng monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Bai Wen Ming ID Number 062447 and Chang Chuansong ID Number 053870, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-345-FCAW-1G(1F)-Repair, to weld first time repairs to WJ Number SSDI-SA173A/K-15A in accordance with ZPMC Repair Procedure T-WRO25 and UT Report T787-UT-037. The QA Inspector randomly observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 305 amps, 31.8 volts with a travel speed 300 millimeters (mm) per minute for Mr. Bai. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional information.

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The QA Inspector randomly observed ZPMC Non Destructive Technician Bo Tin Rui utilizing the Magnetic Particle Testing (MT) Method, to examine tack welds in Partial Penetration WJ's SSD1-SA173J/K-1 and SSD1-SA173J/K-3. There appeared to be no indications and Mr. Bo accepted the above tack welds.

New Tower Shop Bay 2:

The QA Inspector randomly observed ZPMC welder Xue Yian ID Number 040634, utilizing the Submerged Arc Welding (SAW) Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-2221-B-U3c-S, to weld the fill pass in WJ ESD1-SA216A/K-17A on Tower Skin Plate E Sub-Assembly SA216(E) piece mark p788(E) to p789(E). The QA Inspector randomly observed ZPMC CWI An Qing Xiang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 657 amps, 32.5 volts with a travel speed of 615 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations on Tower Skin Plate Section SA296(E) per ZPMC Heat Straightening Request HSR1(T)-753 Rev 0, to remove mill induced distortion.

New Tower Shop Bay 3:

The QA Inspector randomly observed ZPMC welder Yuan Fengchuan ID Number 059355 preparing to utilize the SAW Process to weld the root pass in WJ DP354-001-189 after back gouging. The QA Inspector randomly observed that there was no CWI present and that the weld preparation in WJ DP354-001-189, may not be in compliance with contract documents. The QA Inspector asked ZPMC QC Representative Li Jie, who the CWI was and where he was. Mr. Li informed the QA Inspector that the CWI was Sun Wei who was also the same CWI that was supposed to be present in OBG Bay 1; but was not. Mr. Li made a call on his cell phone and ZPMC CWI Lin Yan Hua ID Number 07129701 came into Bay 3. Mr. Lin inspected the weld preparation of the bevel and decided not to perform any welding until the bevel could be reworked. Mr. Lin informed the QA Inspector that this would be corrected on the day shift. The attached photograph provides additional detail.

Bay 1 OBG:

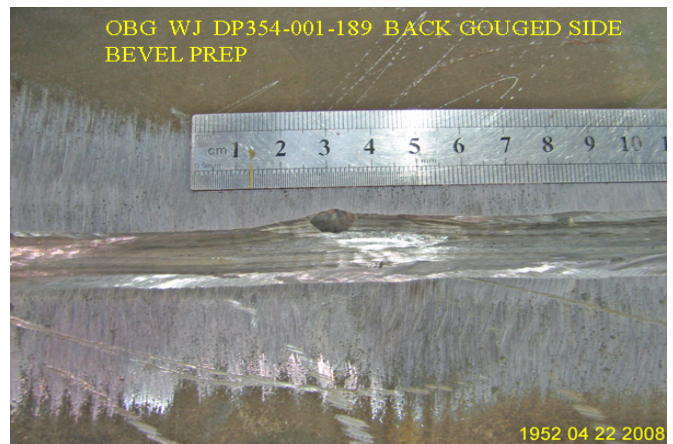
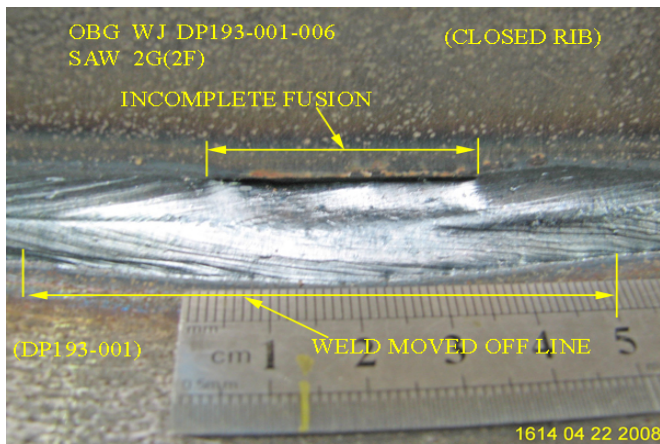
The QA Inspector randomly observed ZPMC welder operators Zhang Shaowei ID Number 059403, Xiang Huanfeng ID Number 059416, Gao Xindong ID Number 059311 and Jiang Tingguang ID Number 062265, utilizing the SAW Process in the 2G(2F) (Horizontal Groove/Horizontal Fillet) Position with gantry mounted welding apparatus and ZPMC WPS WPS-B-T-2342-U1(URib)-3, to weld Closed Ribs to Deck Plate DP327-01 at WJ's 003, 004, 007, and 008 respectively. The QA Inspector randomly observed ZPMC QC monitoring weld parameters with no CWI present. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 680 amps, 25 volts (WJ 003); 682 amps, 25.1 volts (WJ 004); 680 amps, 24.8 volts (WJ 007) and 679 amps, 24.7 volts (WJ008). Travel speed for all welds was randomly observed at 573 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photographs provide additional information.

The QA Inspector randomly observed ZPMC welder operators Xu Guo Yin ID Number 059443, Xiang Jie ID

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Number 059378, Zhang Shaowei ID Number 059403, Xiang Huanfeng ID Number 059416, Gao Xindong ID Number 059311 and Jiang Tingguang ID Number 062265, utilizing the SAW Process in the 2G(2F) (Horizontal Groove/Horizontal Fillet) Position with gantry mounted welding apparatus and ZPMC WPS WPS-B-T-2342-U1(URib)-3, to weld Closed Ribs to Deck Plate DP193-01 at WJ's 001, 002, 005, 006, 009 and 010 respectively. The QA Inspector randomly observed ZPMC QC monitoring weld parameters with no CWI present. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 681 amps, 25.1 volts (WJ 001); 683 amps, 25.7 volts (WJ 002); 678 amps, 25 volts (WJ 005) 683 amps, 25.8 volts (WJ006); 682 amps, 25.7 volts and 683 amps 25.4 volts. Travel speed for all welds was randomly observed at 510 mm per minute. The weld parameters appeared to comply with contract requirements.



Summary of Conversations:

As noted in the above body of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Carreon,Albert

QA Reviewer